Huaiwei Sun

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Application for the postdoctoral position.

Photo taken at the ISSASR-2 in 2010

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PERSONAL INFORMATION

Name: Huaiwei Sun
Age: 26
Country: China

BIOGRAPHY

My research aim is to contribute to solving water resource and environmental problems that occur in the field and basins. I often use some research tools to solve the problems, which include some software for remote sensing and numerical modeling. I may be able to assist the research team in the subject of hydrology, irrigation and modeling.

EDUCATION

Ph.D. in Water Resource and Hydrology, Wuhan University, China, July 2011.

Dissertation: Experimental and Theoretical Study of Water-soil Environment in Planted Greenhouse

Advisor: Jinzhong Yang

Bachelor of Science in Water Resource and Hydropower, Wuhan University, China, July 2006

PROFESSIONAL EXPERIENCE

Assistant prof. in School of Hydropower and Information Engineering, Huazhong University of Science and Technology, China, since July 2011.

FELLOWSHIPS and AWARDS

- Honored as “the Student pacesetter” and awards the “School Scholarship” in middle school
- Awards the “University scholarship” every year and honored as “Outstanding students” in the Wuhan University
- Honored as “the Graduate pacesetter” and awards the “Kwang-Hua Scholarship” by the Kwang-Hua Education Foundation in the Wuhan University

PROFESSIONAL EXPERIENCE

My research interests are mostly focused on water resource and hydrology that are related to the

soil water, groundwater and water environment occurring from the agriculture field, which is the zone of atmosphere and saturated-unsaturated zone. Some researches funding by the National program and University program is title as follows:

- 2009-2011 The study of field practices on the area hydrology (Funded by the Natural Science Foundation of China (No.50979074))
    - This study is supervised by Prof. Jinzhong Yang and our objects are to find the suitable methods to model the hydrology events in the field and to associate different soil used types into modelling packages.
- 2007-2010 The study of mechanism on water and salinity transport under precision irrigation (Funded by the National Hi-Tech Research and Development Program of China (863) (No.2006BAD11B06) and the Natural Science Foundation of China (No. 50639040 and 50979074)).
    - It is a study leading by Prof. Jinzhong Yang and cooperated by the best professors of China in China. My duty is to take up the Chemical tests and to simulate the water flow and solute transport in the field.
    - I am one of main participants in the Shanghai experiment group and have to perform analyses on the field data. Some conceptual models are designed by us and help us to understand the effect of field practice on water and salinity transport.
- 2005-2007 The study of dye techniques on water and solute non-uniformity transport and the numerical simulations (Funded by the National Basic Research Program of China (973) (No.2006CB403404) and the Natural Science Foundation of China (No.50609019)).
    - It is a study leading by Prof. Kang Wang. Our objectives are to get the dynamic progress from the dye pictures and analyze the variability index by numerical simulations. My duty is to give assistance to the completion of experiment and to design the numerical program which could be used to collect the dynamic information from images.
- 2004-2005 The management of WUA in Zhanghe Irrigation Basin and the efficiency of water use by farmers (Funded by Wuhan University undergraduate's research fund)
    - This study is supervised by the Prof. Bin Dong and the main purpose of this study is to survey the WUA in Zhanghe Irrigation Basin and calculate the water use efficiency of the practice by farmers. Our research reports have juried as "the second prize" by the Wuhan University and I get the honor of "good researcher of students".

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- 2003-2004 Assessment of aging disease of hydraulic concrete structure (Funded by Wuhan University undergraduate's research fund)

  ■ It is a study on the aged reservoir, and we find some reasons of the leakage of the dam. Our research reports have awarded ad "Excellence research papers" by the School of Water Resource and Hydropower.

SKILLS AND ACTIVITIES

- Skilled at the chemistry analyze of the solute in soil and water.
- PC Extensive Programming experience: RZWQM, HYDRUS, ADAPT, ArcView/ArcGIS, SWAT, SWMS
- Family in the design of programs with FORTRAN and Matlab.
- Some experience in C, C++, Visual Basic and JAVA
- Enjoy in the teamwork and cooperation with researcher from different backgrounds.

PUBLISHED PAPERS

1. **Sun Huaiwei**, Yang Jinzhong, Wang Xiugui. Numerical simulation of airflow pattern and calculation of crop transpiration in plastic greenhouse [J]. Transactions of the CSAE, 2011, 27(11): 236－241. (in Chinese with English abstract)
2. Lin Chen, Xiugui Wang, **Huaiwei Sun**, et al. Research on Design and Water Management of Controlled Drainage System in Greenhouses [J]. Water-saving irrigation, 2011, 10, 60-65. (in Chinese with English abstract)
3. **Sun Huaiwei**, Yang Jinzhong, Wang Xiugui, et al. Effects of controlled drainage on soil water and nitrogen changes in greenhouse [J]. Transactions of the CSAE, 2011, 27(5): 37－45. (in Chinese with English abstract)
4. Fuxiong Zhou, Weifeng Wu, **Huaiwei Sun**, et al. Effects of Controlled drainage on soil salinity in Greenhouse [J]. Journal of irrigation and drainage, 2010, 29(1):15-19. (in Chinese with English abstract)
5. **Huaiwei Sun**, Kang Wang, Lei Zhu. Field Evaluation of Micro-irrigation uniformity by dye infiltration experiments [J]. Journal of Irrigation and Drainage, 2008,2: 19-21. (in Chinese)
6. **Huaiwei Sun**, Lei Zhu, Kang Wang, Jinzhong Yang. Quantifying solute transport using tracer infiltration in clay soil [J]. JOURNAL OF CHINA UNIVERSITY OF GEOSCIENCES, 2007, SI: 162-164.
7. Lei Zhu, **Huaiwei Sun**, Kang Wang, Jinzhong Yang. Quantifying the preferential flow by using visualization techniques and tracer infiltration in clay soil [J]. JOURNAL OF CHINA UNIVERSITY OF GEOSCIENCES, 2007, SI: 102-104.
8. **Huaiwei Sun**, Jinzhong Yang, Xiugui Wang. An Improved Method for Estimating Soil Particle-size Distribution from Limited Texture Data. (Submitted to European Journal of soil research in 2010, under review)
9. **Huaiwei Sun** and Jinzhong Yang. A modified numerical approach to estimating field capacity.

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(Submitted to Journal of Hydrologic Engineering in 2010, under review)

10. **Huaiwei Sun**, Xianhong Xie, Xiugui Wang, Jinzhong Yang. Multifractal analysis of reference crop evapotranspiration time series. (Submitted to Journal of Hydroelectric Engineering in 2011, under review)
11. **Huaiwei Sun**, Jinzhong Yang, Xiugui Wang. Study of water management strategies on soil water-salt movement within plastic greenhouse. (Submitted to advance in water science in 2011, under review)
12. **Huaiwei Sun**, Jinzhong Yang, Xiugui Wang. Calibration and evaluation of model approach to determined field capacity (in preparation)

CONFERENCE PAPERS

1. **Huaiwei Sun**, Jinzhong Yang, Xiugui Wang, Guoqiang Liu. The dynamic of water and nitrogen movement simulation in greenhouse soil under the controlled drainage with RZWQM model [C]. International Conference on Modern Hydraulic Engineering (CMHE 2010), Xi'an, China, Nov. 27-28, 2010 (Conference Paper).
2. **Huaiwei Sun**, Jinzhong Yang, Xiugui Wang. A simplified continuous simulation model for investigating long-term soil moisture dynamics under shallow groundwater table [C]. ISSARS-2, Changsha, China, 15-18 September, 2010 (presentation).
3. **Huaiwei Sun**, Jinzhong Yang, Xiugui Wang. CFD based determination of crop transpiration in local greenhouse in eastern China [C]. The 4th International Conference on Bioinformatics and Biomedical Engineering, Chengdu, China, 21st to 23rd June,2010 (Conference Paper).
4. Chen Zhao, Xiugui Wang, **Huaiwei Sun**, et al. Change characteristics of light intensity and soil temperature with its simulation in plastic greenhouse [C]. The annual meeting of Chinese Society of Agricultural Engineering, Yunan, China, August 7-8 (Conference Paper). (in Chinese)
5. Weifeng Wu, **Huaiwei Sun**, Yongkun Yuan, et al. The study of controlled drainage prevented the secondary salinity in greenhouse [C]. Water Resource responses and sustainable utilization in variable environment- the annual meeting of Chinese Hydraulic Engineering Society (CHES). Dalian, China, Dec.05-07, 2009 (Conference Paper). (in Chinese).